Clean Version of Amended Claims Pursuant to 37 C.F.R. 1.121

1. A waveguide comprising:

a first layer, of a multi-layered stack, of dielectric material;

a second layer, of a multi-layered stack, of dielectric material having a dielectric constant less than 30, positioned adjacent to said first layer of dielectric material, said second layer of dielectric material having a dielectric constant that is less than the dielectric constant of said first layer of dielectric material;

first and second electrodes for applying a controllable voltage across said first dielectric material, thereby controlling a dielectric constant of said first dielectric material, wherein at least one of said first and second electrodes is positioned between said first and second layers of dielectric material;

a waveguide positioned adjacent to a first edge of each of said first and second layers; and

first and second ground planes positioned on opposite sides of said waveguide.

2. A waveguide as recited in claim 1, further comprising:

means for applying a controllable voltage across said second dielectric material, thereby controlling the dielectric constant of said second dielectric material.

3. A waveguide as recited in claim 1, further comprising:

a plurality of additional layers of dielectric material positioned substantially in parallel with said first and second layers of dielectric material, said additional layers of dielectric material can include at least one layer having a tunable dielectric constant.

4. A waveguide as recited in claim 1, wherein said first layer of dielectric material has a dielectric constant greater than about 100 and a loss tangent less than about 0.01.

5. A waveguide as recited in claim 1, wherein said second layer of dielectric material is selected from the group consisting of a Ba1-xSrxTiO3 composite where x ranges from zero to one, alumina, mica, and air.

6. A waveguide as recited in claim 1, wherein said first and second layers are substantially rectangular slabs lying in planes that are oriented parallel to a direction of propagation of a radio frequency signal through the waveguide.

7. A waveguide as recited in claim 1, wherein said first layer of dielectric material is selected from the group consisting of BSTO, BSTO-MgO, BSTO-MgAl2O4, BSTO-CaTiO3, BSTO-MgTiO3 and BSTO-MgSrZrTiO6.

IN THE CLAIMS:

Please amend claim 1, 2, 3, 5, 6 and 7 as follows:

1. (Amended) A waveguide comprising:

a first layer, of a multi-layered stack, of dielectric material;

a second layer, of a multi-layered stack, of dielectric material, having a dielectric constant less than 30, positioned adjacent to said first layer of dielectric material, said second layer of dielectric material having a dielectric constant that is less than the dielectric constant of said first layer of dielectric material;

first and second electrodes for applying a controllable voltage across said first dielectric material, thereby controlling a dielectric constant of said first dielectric material, wherein at least one of said first and second electrodes is positioned between said first and second layers of dielectric material;

a [microstrip] waveguide positioned adjacent to a first edge of each of said first and second layers; and

first and second ground planes positioned on opposite sides of said [microstrip]waveguide.

2. (Amended) A waveguide as recited in claim 1, further comprising:

means for applying a controllable voltage across said second dielectric material, thereby controlling [a]the dielectric constant of said second dielectric material.

3. (Amended) A waveguide as recited in claim 1, further comprising:

a plurality of additional layers of dielectric material positioned [generally] substantially in parallel with said first and second layers of dielectric material, said

additional layers of dielectric material can include at least one layer [at least selected ones of said additional layers of dielectric material] having a tunable dielectric constant.

4. A waveguide as recited in claim 1, wherein said first layer of dielectric material has a dielectric constant greater than about 100 and a loss tangent less than about 0.01.

5. (Amended) A waveguide as recited in claim 1, wherein said second layer of dielectric material is selected from the group consisting of [comprises one of:]a $Ba_{1-x}Sr_xTiO_3$ composite where x ranges from zero to one, alumina, mica, and air.

6. (Amended) A waveguide as recited in claim 1, wherein said first and second layers are [generally] substantially rectangular slabs lying in planes that are oriented parallel to a direction of propagation of a radio frequency signal through the waveguide.

7. (Amended) A waveguide as recited in claim 1, wherein said first layer of dielectric material is selected from the group consisting of [comprises one of:]BSTO, BSTO-MgO, BSTO-$MgAl_2O_4$, BSTO-$CaTiO_3$, BSTO-$MgTiO_3$[,] and BSTO-$MgSrZrTiO_6$[,]. [or a combination thereof.]

IN THE SPECIFICATION:

Please amend the cross reference to related patent application from the following: